

## ABSTRACT OF THE DISCLOSURE

In a malfunction detecting system of an engine cooling apparatus constituted as a radiator having a thermostat opening/closing an inlet pipe and an outlet pipe, a temperature sensor is installed at the radiator to detect a temperature of the coolant flowing through the radiator. In the system, a period of time since the engine starting is measured and is compared with a predetermined value indicative of a period of time until the thermostat presumably opens. Then, the detected coolant temperature is compared with three reference values, when the measured period of time exceeds the predetermined value and it is discriminated that the cooling apparatus, more specifically, the thermostat of the radiator has malfunctioned, when the coolant temperature exceeds a medium one of the reference values. In addition, it is discriminated the apparatus has malfunctioned, if the coolant temperature exceeds the highest reference value, even when the measured period of time does not exceed the predetermined value. Further, the discrimination is reserved, if the coolant temperature exceeds the lowest reference value, but the coolant temperature does not exceed the highest reference value, whilst it is discriminated that the apparatus is normal, if the coolant temperature does not exceed the lowest reference value. With this, by directly detecting radiator coolant temperature, the malfunction can be detected with high accuracy.

20